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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/675,496   | 09/29/2000  | Andy Debecker        | U 012967-6          | 1770             |
| 7590   | 10/03/2003  |                      | EXAMINER            |                  |
| Ladas & Parry<br>26 West 61st Street<br>New York, NY 10023 |             |                      | MEREK, JOSEPH C     |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 3727                |                  |

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                 |
|------------------------------|-----------------|-----------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)    |
|                              | 09/675,496      | DEBECKER ET AL. |
|                              | Examiner        | Art Unit        |
|                              | Joseph C. Merek | 3727            |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 September 2002.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-9 and 15-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9 and 15-38 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 9/29/00 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a)  The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____                                     |

**DETAILED ACTION**

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 26-37 been renumbered 27-38 in the amendment 9/6/02 with a copy and post card provided via fax on February 19, 2003. Prior to this amendment claim 26 was already present in the application.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "end portions of the pressure vessel are formed by isotensoid shaped bodies which sealingly abut against the cylindrical portion at opposite ends thereof and are secured hereto by said overwound fiber filaments to resist pressure" and "vessel having a unidirectional curvature" must be shown or the feature(s) canceled from the claim(s). The drawings show a single body. The body 14 contacts the vessel at a planar portion. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claim 25 is objected to because of the following informalities: "would" should be replaced with wound. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-19, 24, and 25 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding claim 1, it has not been adequately disclosed how the vessel has a unidirectional curvature. Regarding claim 1, it has not been adequately disclosed how there is free movement of the fiber filaments with respect to each other. As seen in Figs. 4a and 4b, the tightly stacked fibers will prevent each other from moving. Moreover, as seen in Fig. 2, the addition of the cylindrical wrapping fibers 10, it is not apparent that any of the fibers will be able to move. This is a new matter rejection. Moreover, there is no support for the shape having a continuous curvature. Regarding claim 24, it has not been adequately disclosed that the end portions sealingly abut the cylindrical portion and are secured hereto by the overwound fiber filaments. It is has not been adequately disclosed as to how a seal is made between the bodies and the cylindrical portion. The remaining claims are included since they stem from rejected claims.

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Claims 1-9 and 15-38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 1, 2, 20, 27-31, 37, and 38, it has not been disclosed how the fibers are wound on the vessel to achieve the claimed "free movement". As seen in Figs. 4a and 4b of the instant invention, the fibers are packed tightly against each other and would be restricted from movement by their contact. Regarding claim 10-19, it has not been disclosed what structure is required to provide the vessel with the ability to withstand the claimed pressures. Applicant does not provide one of ordinary skill in the art with the information required to make the vessel withstand the claimed pressures. Regarding claim 24, it is not clear how the isotensoid bodies contact and seal with the cylindrical portion. The drawing in the Fig. 3 shows the bodies contacting planar end portions of the body. The remaining claims are included since they stem from rejected claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 3, there is no antecedent basis for the limitation "continuous".

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9, 15-18, 20, 21, 23, 24, 25, 27-33, 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Murphy. Regarding claim 1, the fibers are loaded in their longitudinal direction. Since shear stress is avoided on the filaments there is no need for a matrix. Regarding claim 2, as it is best understood, the fibers are free to move. Regarding claims 3, as it is best understood, there are continuous curves on the ends. Regarding claim 4, the shape of the container is isotensoid and has a cylindrical portion. Regarding claims 9 and 17, the container can withstand zero that meets the up to limitation. Regarding claims, 15, 16, and 18, since applicant does not disclose that specific structure is required to meet these pressures, the structure of Murphy is capable of withstanding the specified pressures. Moreover, there is no structure that is required by that claims that is not in the reference. Regarding claims 20 and 21, Murphy teaches the avoidance of shear stress in the filaments therefore no matrix is required. Regarding claim 23, see Fig. 1, of Murphy where 20 is the cylindrical portion that connects the isotensoid end caps. The end caps have a continuous curve since they are smooth and regular. The windings extend circumferentially about the cylindrical portion. The winding extend longitudinally about the isotensoid end portions. Regarding claim 24, this structure is not required since it is new matter. Regarding claim 25, the winding extend circumferentially about the cylindrical portion. The fibers doe not cross the cylindrical portion parallel to the axis of the container. They cross the cylindrical portion at an angle and therefore extend circumferentially. Regarding claims

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27-33 see the above discussion. The vessel 16 is covered over substantially 360 degrees with the overwrap. Regarding claims 37 and 38 see the above discussion. The poles are the ends with the openings 12.

Claims 1-3, 9, 15-21, 27-31, 33, 37, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Cook (WO 97/12175). Regarding claim 1, see page 4, second paragraph where the container is matrix free. The filaments are loaded in the longitudinal direction. Regarding claim 2, the fibers can move freely with respect to each other. Regarding claim 3, as it is best understood, the container is an isotensoid shape with a continuous curvature. Regarding claims 9 and 17, the container can withstand zero that meets the up to limitation. Regarding claims, 15, 16, and 18, since applicant does not disclose that specific structure is required to meet these pressures, the structure of Cook is capable of withstanding the specified pressures. Moreover, there is no structure that is required by that claims that is not in the reference. Regarding claim 19, see the claims where a valve is claimed. Regarding claims 20 and 21, Cook teaches a matrix free container. Regarding claims 27-31, the vessel is matrix free and the toroidal vessel has what is considered poles. Any two points opposite each other across the open center are considered the poles of the vessel. Regarding claims 37 and 38, see the above discussion.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy in view of Kepler et al. Regarding claims 7, 8 and 36, Murphy teaches a plastic inner liner for the wound pressure vessel but does not teach the use of High density Polyethylene for the liner. Kepler et al, as seen in Col. 3, lines 18-20, teaches use of polyethylene for the inner liner of a wound pressure vessel. It would have been obvious to employ the polyethylene of Kepler et al in the vessel of Murphy to provide a proven material for the liner. See the claims of Murphy where glass or carbon fibers are used for the filaments. Regarding claim 26, Murphy does not teach using a rigid reinforcing member with isotensoid surfaces. Kepler et al as seen in Figs. 3 and 4, teaches it would vessel with a liner with inserts in the ends for reinforcement. It would have been obvious to employ the inserts of Kepler et al in the tank of Murphy to reinforce the openings or to make it easier to install a closure or to reinforce the end openings.

Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy. Regarding claim 19, Murphy teaches an appendage 12 in the tank but does not disclose the closure in the appendage. It would have been obvious to provide a closure for the opening in the tank to prevent escape of the contents. It is well known

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to Regarding claim 22, Murphy does not teach the use of a mold for manufacturing the pressure vessel. Official notice is taken that it is well known to use molds to produce plastic components. It would have been obvious to employ a mold to produce the inner container of Murphy to provide a convenient and rapid way to produce the inner containers.

Claims 5, 6, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy in view of Reinhart, Jr. Regarding claims 5, 6, 34, and 35, Murphy does not teach the protective coating or the synthetic rubber. Reinhart, Jr. as seen in Fig. 3, teaches covering the wound layer with an elastomeric coating. It would have been obvious to employ the elastomeric of Reinhart, Jr. in the container of Murphy to protect the winding layer.

Claims 15, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy. Regarding claims 15, 16, and 18, to the degree that Murphy is not capable of withstanding the claimed pressures it would have been obvious to provide Murphy withstand greater pressures to provide a greater measure of safety or to fulfill the need of the user. Moreover, Murphy discloses the claimed invention except for specified pressures. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make Murphy withstand greater pressures, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

***Response to Arguments***

Applicant's arguments filed 8/21/02 have been fully considered but they are not persuasive. Applicant's argues that there are shear stresses on the fibers. However, Murphy in Col. 1, lines 19-25 and 38-40, teaches the avoiding shear stress on the filaments. Applicant's arguments are in direct conflict of the teachings of Murphy. Therefore is no need for the matrix since as shear stress on the filaments is avoided.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph C. Merek whose telephone number is (703) 305-0644. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lee Young can be reached on (703) 308-2572. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 308-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

Joseph C. Merek  
September 30, 2003

9/30/03  
LEE YOUNG  
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